AMENDMENTS TO THE CLAIMS

1-49. (canceled).

50. (new):   A method for querying a trajectory of a moving object, the method comprising:

obtaining a sequence of expected locations for the moving object including a starting

point, a destination point and intermediate points;

computing a temporal-spatial path along which the moving object travels from the

starting point through the intermediate points to the destination point:

creating a trajectory for the moving object, wherein the trajectory defines permissible

spatial and temporal uncertainties in actual locations of the moving object relative to expected

locations of the moving object along the temporal-spatial path; and

performing a query on the trajectory in order to determine location information about the

moving object.

51. (new):   A computer readable medium having stored therein instructions for causing a

processor to execute the method of claim 50.

52. (new):   The method of claim 50, further comprising:

storing the trajectory in the database; and

wherein performing a query on the trajectory comprises accessing the trajectory in the

database in order to perform the query.

McDonnell Boehnen
   Hulbert & Berghoff LLP
300 South Wacker Drive, 32nd Floor
Chicago, Illinois 60606
312-913-0001

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53. (new): The method of claim 52, wherein the database stores respective trajectories for a plurality of moving objects.

54. (new): The method of claim 50, wherein the query receives as input a location and a time, wherein the query returns a statistical likelihood that the moving object will be at the location and the time, and wherein the statistical likelihood is based at least in part on the permissible spatial and temporal uncertainties in the actual locations of the moving object.

55. (new): The method of claim 54, further comprising providing a notification to a user based on results of the query.

56. (new): The method of claim 50, wherein the query receives as input a spatial region and a time, wherein the query returns a statistical likelihood that the moving object will be within the spatial region at the time, and wherein the statistical likelihood is based at least in part on the permissible spatial and temporal uncertainties in the actual locations of the moving object.

57. (new): The method of claim 56, wherein the spatial region is a convex polygon, a concave polygon, a circle, a sphere, a hypersphere, or a volumetric polygon.

58. (new): The method of claim 56, further comprising providing a notification to a user based on results of the query.

59. (new):   The method of claim 50, wherein the query receives as input a spatial region and a time interval, wherein the query returns a statistical likelihood that the moving object will be within the spatial region during the time interval, and wherein the statistical likelihood is based at least in part on the permissible spatial and temporal uncertainties in the actual locations of the moving object.

60. (new):   The method of claim 59, wherein the spatial region is a convex polygon, a concave polygon, a circle, a sphere, a hypersphere or a volumetric polygon.

61. (new):   The method of claim 59, further comprising providing a notification to a user based on results of the query.

62. (new):   A method for querying trajectories of a plurality of moving objects, the method comprising:

        creating a respective trajectory for each of a plurality of moving objects, wherein the trajectory encompasses all possible temporal-spatial paths along which the moving object may travel between starting and destination locations within a range of spatial and temporal uncertainties; and

        performing a query on the trajectories in order to determine location information about the moving objects.

63. (new):   A computer readable medium having stored therein instructions for causing a processor to execute the method of claim 62.

McDonnell Boehnen
    Hulbert & Berghoff LLP
300 South Wacker Drive, 32nd Floor
Chicago, Illinois 60606
312-913-0001

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64. (new): ' The method of claim 62, wherein the query receives as input a location and a time, wherein the query returns which of the plurality of moving objects has a highest statistical likelihood of being closest to the location at the time, and wherein the statistical likelihood is based at least in part on the range of spatial and temporal uncertainties for the moving object.

65. (new): The method of claim 64, wherein the query additionally returns the statistical likelihood that the moving object will be closest to the location at the time.

66. (new): The method of claim 62, wherein the query receives as input a location and a time, wherein the query returns, for each of the moving objects, a respective statistical likelihood that the moving object will be closest to the location at the time, and wherein the respective statistical likelihoods are based at least in part on the range of spatial and temporal uncertainties for the moving objects.

67. (new): The method of claim 62, wherein the query receives as input a location, a time and a statistical likelihood threshold, wherein the query returns which of the plurality of moving objects have respective statistical likelihoods of being closest to the location at the time that are at least as high as the statistical likelihood threshold, and wherein the respective statistical likelihoods are based at least in part on the range of spatial and temporal uncertainties for the moving objects.

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68. (new):   The method of claim 62, wherein the query receives as input a location and a time interval, wherein the query returns which of the plurality of moving objects has a highest statistical likelihood of being closest to the location during the time interval, and wherein the statistical likelihood is based at least in part on the range of spatial and temporal uncertainties for the moving object.

69. (new):   The method of claim 68, wherein the query additionally returns the statistical likelihood that the moving object will be closest to the location during the time interval.

70. (new):   The method of claim 62, wherein the query receives as input a location and a time interval, wherein the query returns, for each of the moving objects, a respective statistical likelihood that the moving object will be closest to the location during the time interval, and wherein the respective statistical likelihoods are based at least in part on the range of spatial and temporal uncertainties for the moving objects.

71. (new):   The method of claim 62, wherein the query receives as input a location, a time interval and a statistical likelihood threshold, wherein the query returns which of the plurality of moving objects have respective statistical likelihoods of being closest to the location during the time interval that are at least as high as the statistical likelihood threshold, and wherein the statistical likelihoods are based at least in part on the range of spatial and temporal uncertainties for the moving objects.

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72. (new): The method of claim 62, wherein the query receives as input a spatial region and a time, wherein the query returns which of the plurality of moving objects has a highest statistical likelihood of being within the spatial region at the time, and wherein the statistical likelihood is based at least in part on the range of spatial and temporal uncertainties for the moving object.

73. (new): The method of claim 72, wherein the spatial region is a convex polygon, a concave polygon, a circle, a sphere, a hypersphere or a volumetric polygon.

74. (new): The method of claim 72, wherein the query additionally returns the statistical likelihood that the moving object will be within the spatial region at the time.

75. (new): The method of claim 62, wherein the query receives as input a spatial region and a time, wherein the query returns, for each of the moving objects, a respective statistical likelihood that the moving object will be within the spatial region at the time, and wherein the respective statistical likelihoods are based at least in part on the range of spatial and temporal uncertainties for the moving objects.

76. (new): The method of claim 75, wherein the spatial region is a convex polygon, a concave polygon, a circle, a sphere, a hypersphere or a volumetric polygon.

77. (new): The method of claim 62, wherein the query receives as input a spatial region, a time and a statistical likelihood threshold, wherein the query returns which of the plurality of moving objects have respective statistical likelihoods of being within the spatial region at the

time that are at least as high as the statistical likelihood threshold, and wherein the respective statistical likelihoods are based at least in part on the range of spatial and temporal uncertainties for the moving objects.

78. (new):   The method of claim 77, wherein the spatial region is a convex polygon, a concave polygon, a circle, a sphere, a hypersphere or a volumetric polygon.

79. (new):   The method of claim 62, wherein the query receives as input a spatial region and a time interval, wherein the query returns which of the plurality of moving objects has a highest statistical likelihood of being within the spatial region during the time interval, and wherein the statistical likelihood is based at least in part on the range of spatial and temporal uncertainties for the moving object.

80. (new):   The method of claim 79, wherein the spatial region is a convex polygon, a concave polygon, a circle, a sphere, a hypersphere or a volumetric polygon.

81. (new):   The method of claim 79, wherein the query additionally returns the statistical likelihood that the moving object will be within the spatial region during the time interval.

82. (new):   The method of claim 62, wherein the query receives as input a spatial region and a time interval, wherein the query returns, for each of the moving objects, a respective statistical likelihood that the moving object will be within the spatial region during the time interval, and

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wherein the respective statistical likelihoods are based at least in part on the range of spatial and temporal uncertainties for the moving objects.

83. (new):   The method of claim 82, wherein the spatial region is a convex polygon, a concave polygon, a circle, a sphere, a hypersphere or a volumetric polygon.

84. (new):   The method of claim 62, wherein the query receives as input a spatial region, a time interval and a statistical likelihood threshold, wherein the query returns which of the plurality of moving objects have respective statistical likelihoods of being within the spatial region during the time interval that are at least as high as the statistical likelihood threshold, and wherein the respective statistical likelihoods are based at least in part on the range of spatial and temporal uncertainties for the moving objects.

85. (new):   The method of claim 84, wherein the spatial region is a convex polygon, a concave polygon, a circle, a sphere, a hypersphere or a volumetric polygon.

86. (new):   The method of claim 62, wherein the query receives as input a distance, a time interval and a statistical likelihood threshold, wherein the query returns which of the plurality of moving objects have respective statistical likelihoods of being within the distance of each other during the time interval that are at least as high as the statistical likelihood threshold, and wherein the respective statistical likelihoods are based at least in part on the range of spatial and temporal uncertainties for the moving objects.

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87. (new): The method as in any one of claims 64-86, further comprising providing a notification to a user based on results of the query.

88. (new): A method for determining location information about a plurality of moving objects, the method comprising:

for each of a plurality of moving objects, creating a respective trajectory for the moving object, wherein the trajectory defines permissible spatial and temporal uncertainties in a given actual location of the moving object relative to an expected location along a temporal-spatial path for the moving object, wherein the temporal-spatial path is created from an expected starting location, an expected destination location and expected intermediate locations for the moving object;

storing the respective trajectories in a database; and

performing a query using at least two of the trajectories stored in the database in order to determine location information about the plurality of moving objects.

89. (new): A computer readable medium having instructions stored therein for causing a processor to execute the method of claim 88.

90. (new): The method of claim 88, further comprising providing a notification to a user based on a result of the query.

91. (new): The method of claim 88, wherein the query receives as input a location and a time, and wherein the query returns which of the plurality of moving objects has a highest

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probability of being closest to the location at the time, wherein the probability is based at least in part on the permissible spatial and temporal uncertainties in actual locations of the moving object.

92. (new): The method of claim 88, wherein the query receives as input a location and a time, and wherein the query returns, for each of the moving objects, a respective probability that the moving object will be closest to the location at the time, wherein the probability is based at least in part on the permissible spatial and temporal uncertainties in actual locations of the moving object.

93. (new): The method of claim 88, wherein the query receives as input a location and a time interval, and wherein the query returns which of the plurality of moving objects has a highest probability being closest to the location during the time interval, wherein the probability is based at least in part on the permissible spatial and temporal uncertainties in actual locations of the moving object.

94. (new): The method of claim 88, wherein the query receives as input a location, a time interval and a probability threshold, wherein the query returns which of the plurality of moving objects have respective probabilities being closest to the location during the time interval that are at least as high as the probability threshold, and wherein the respective probabilities are based at least in part on the permissible spatial and temporal uncertainties in actual locations of the moving objects.

95. (new): The method of claim 88, wherein the query receives as input a spatial region and a time, and wherein the query returns which of the plurality of moving objects has a highest probability of being within the spatial region at the time, wherein the probability is based at least in part on the permissible spatial and temporal uncertainties in actual locations of the moving object.

96. (new): The method of claim 88, wherein the query receives as input a spatial region and a time, wherein the query returns, for each of the moving objects, a respective probability that the moving object will be within the spatial region at the time, and wherein the respective probabilities are based at least in part on the permissible spatial and temporal uncertainties in actual locations of the moving objects.

97. (new): The method of claim 88, wherein the query receives as input a spatial region, a time and a probability threshold, wherein the query returns which of the plurality of moving objects have respective probabilities of being within the spatial region at the time that are at least as high as the probability threshold, and wherein the respective probabilities are based at least in part on the permissible spatial and temporal uncertainties in actual locations of the moving objects.

98. (new): The method of claim 88, wherein the query receives as input a spatial region and a time interval, and wherein the query returns which of the plurality of moving objects has a highest probability of being within the spatial region during the time interval, wherein the

probability is based at least in part on the permissible spatial and temporal uncertainties in actual locations of the moving object.

99. (new): The method of claim 88, wherein the query receives as input a spatial region and a time interval, wherein the query returns, for each of the moving objects, a respective probability that the moving object will be within the spatial region during the time interval, and wherein the respective probabilities are based at least in part on the permissible spatial and temporal uncertainties in actual locations of the moving objects.

100. (new): The method of claim 88, wherein the query receives as input a spatial region, a time interval and a probability threshold, wherein the query returns which of the plurality of moving objects have respective probabilities of being within the spatial region during the time interval that are at least as high as the probability threshold, and wherein the respective probabilities are based at least in part on the permissible spatial and temporal uncertainties in actual locations of the moving objects.

101. (new): The method of claim 88, wherein the query receives as input a distance, a time interval and a probability threshold, wherein the query returns which of the plurality of moving objects have respective probabilities of being within the distance of each other during the time interval that are at least as high as the probability threshold, and wherein the respective probabilities are based at least in part on the permissible spatial and temporal uncertainties in actual locations of the moving objects.

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